

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 78.28**WELDING INSPECTION REPORT****Resident Engineer:** Casey, William**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-030042**Date Inspected:** 16-Sep-2013**Project Name:** SAS Superstructure**OSM Arrival Time:** 1500**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1700**Contractor:** Steward Machine Co.**Location:** Birmingham, AL**CWI Name:** Fred Hudson**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** E2 Shear Key Anchorages**Summary of Items Observed:**

Quality Assurance Inspector (QAI) Andrew Webster traveled from Corpus Christi, TX to Birmingham, AL to perform Quality Assurance at Steward Machine. This QAI was present on the date and times noted above in order to observe the fabrication and Quality Control (QC) functions performed by Steward Machine Company for the E2 Shear Key Anchorages for the SFOBB project. The following items were observed:

**Steward Machine - Plant 1:**

This QAI performed a walkthrough at the shop to verify plates on site and to observe Steward Machine personnel at work machining and welding. Work performed at the Steward Machine shop as noted below:

CNC Machine #211 milling plate S4C-h4. (Milling excess stock off)

CNC Machine #230 milling S4B assembly (Milling excess stock off the east end)

CNC Machine #231 milling S10C assembly (Milling excess stock off side B)

CNC Machine #245 milling plate S3C-h3. (Milling excess stock off)

The following plates were noted staged throughout the shop in various stages of processing.

**Bay 3 – Plates:**

S4C-g4. Formed, stressed relieved and partially machined.

**Bay 4 – Plates:**

S3B-a3. Formed, stressed relieved and partially machined.

S3C-a3. Formed, stressed relieved and partially machined.

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S3C-b3. Formed, stressed relieved and partially machined.  
S3C-c3. Formed, stressed relieved and partially machined.  
S3C-d3. Formed, stressed relieved and partially machined.  
S3C-e3. Formed, stressed relieved, partially machined and stud welded.  
S3C-f3. Formed, stressed relieved and partially machined.  
S3C-g3. Formed, stressed relieved and partially machined.  
S4B-e4. Formed, stressed relieved, partially machined and stud welded.  
S4C-a4. Formed, stressed relieved and partially machined.  
S4C-b4. Formed, stressed relieved and partially machined.  
S4C-c4. Formed, stressed relieved and partially machined.  
S4C-d4. Formed, stressed relieved and partially machined.  
S4C-e4. Formed, stressed relieved, partially machined and stud welded.  
S4C-f4. Formed, stressed relieved and partially machined.  
Pallet of r3, t3, s3, m3, k3 and j3 plates.  
p3 (x6). Cut, beveled and stud welded.

### Blast area plates:

S3B-b3. Formed, stressed relieved and partially machined.  
S3B-c3. Formed, stressed relieved and partially machined.  
S3B-d3. Formed, stressed relieved and partially machined.  
S3B-f3. Formed, stressed relieved and partially machined.  
S3B-g3. Formed, stressed relieved and partially machined.  
S3B-h3. Formed, stressed relieved and partially machined.

This QAI noted the tack welding of plates t3 to m3 and j3.in the welding jig. The tack welding was done by qualified welder Benjamin Rhodes (481) on the west end. The welding was done to the approved welding procedure (WPS) P2-W101-B. All welding done was monitored by Certified Welding Inspector (CWI) Fred Hudson. The tack welding was done at 1630.

### Steward Machine - Plant 2:

This QAI performed a walkthrough at the shop to verify plates on site and to observe Steward Plant 2 personnel at work. Work performed at the Steward Plant 2 shop as noted below:

No work being done on this project at this time.

The following plates were noted staged throughout the shop.

S3B-e3. Formed, stressed relieved, partially machined and stud welded.  
p3 (x2). Cut, beveled and stud welded.

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The S3B plates in the blast area ready for blasting then assembly.



Machining the excess stock off part S3C-h3.

## Summary of Conversations:

This QAI was informed by the paint area supervisor that the plates for the S3B assembly would be blasted around 4am and then they would be assembled for welding.

## Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Gary Thomas 916-764-6027, who represents the Office of Structural Materials for your project.

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**Inspected By:** Webster, Andrew

Quality Assurance Inspector

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**Reviewed By:** Foerder, Mike

QA Reviewer